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Integrity - Service - Excellence

Workplace Specific HAZCOM Training Lesson Plan

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Overview

- **Air Force HAZCOM Program Requirements**
- **Workplace Specific HAZCOM Training**

Air Force HAZCOM Program Requirements

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Purpose of the Program

- **The purpose of the Air Force HAZCOM program is to ensure personnel are:**
  - **Aware of potential health hazards of their job relating to chemical use**
  - **Informed of safe work practices**
  - **Informed of proper use of engineering controls**
  - **Trained in selection, use and availability of PPE to prevent chemically related illness / injury**

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HAZCOM Applies to Who?

- **All personnel who use, handle or may be potentially exposed to hazardous chemicals in the course of their official Air Force duties.**
  - **Military Personnel**
  - **Civilians**
  - **Local nationals**

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HAZCOM Exemptions

- **These items are exempt from HAZCOM:**
  - **Hazardous wastes regulated under the Resource Conservation and Recovery Act (RCRA)**
  - **Hazardous substances subject to a remedial action or removal action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**
  - **Tobacco or tobacco products**
  - **Wood or wood products that will not be processed**
  - **Food or alcoholic beverages**
  - **Drugs in final form [such as non-prescription and prescription, dry pelletized drugs, e.g., pills or caplets]**
  - **Cosmetics**

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HAZCOM Exemptions cont'd…

- **Consumer products:**
  - Materials used in the workplace for the purpose intended by the chemical manufacturer, and used in a duration and frequency which is not greater than could reasonably be experienced by normal consumers
  - **For example:**
    - Personnel who use window cleaner fluid to clean infrequently will not require this training; however, maintenance personnel using the same window cleaner daily will require training
- **Nuisance particulates, such as copier toner**
- **Ionizing and non-ionizing radiation**
- **Biological hazards**
- **Munitions as defined in AFI 32-7086, *Hazardous Materials Management***

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HAZCOM Program Directives

- **OSHA Standard 29 CFR 1910.1200, *Hazard Communication***
- **Air Force Instruction 90-821, *Hazard Communication***
- **51FW Instruction 48-106, *Base Hazard Communication Program***

HAZCOM is primarily the responsibility of the Unit Commander and the Work Area/Shop Supervisor

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HAZCOM Program Components

- **Workplace Specific HAZCOM Training**
- **Labels and Other Forms of Warning**
- **Hazardous Chemical Inventory**
- **Material Safety Data Sheets (MSDS)**
- **Non-routine Tasks**

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Workplace Specific HAZCOM Training

- **Workplace Specific HAZCOM Training:**
  - Training plan must be approved by Bioenvironmental Engineering (BE), Public Health (PH), Ground Safety, and Fire Department
  - Use of this training presentation satisfies this requirement
- **When to conduct training:**
  - Upon initial workplace assignment (PCA or PCS) – must be completed prior to exposure to hazardous chemicals (training from a workplace at a previous assignment does not count)
  - When adding new chemicals or processes to the workplace
  - HAZCOM training is not an annual requirement
- **Documentation of training:**
  - Initial and supplemental HAZCOM training must be documented on each individual's AF Form 55

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Labels

- **Labeling hazardous chemical containers must comply with requirements as outlined in: OSHA Standard 29 CFR 1910.1200 *Hazard Communication;* DoDI 6050.5-H, *DoD Hazardous Chemical Warning Labeling System;* and the Environmental Final Governing Standards for Republic of Korea, USFK Pam 200-1 (Chapter 5, paragraph 5-3.c.6).**
- **Hazardous chemical containers of U.S. origin must be labeled in English with the following:**
  - The identity of the hazardous chemical(s) in the container.
  - Appropriate hazard warnings that include information about the specific physical and health hazard(s), including target organ effects of the chemical(s) in the container.
- **Hazardous chemical containers not of U.S. origin must be labeled in Hangul AND English with the following:**
  - The identification/name of the hazardous chemical
  - Appropriate hazard warnings/cautions in handling
  - The hazard symbol and toxicity
  - The name, complete address and telephone number of the manufacturer, importer, distributor/seller, or other responsible party
- **If chemicals are transferred into containers other than the original manufacturer container, the new container must be appropriately labeled.**

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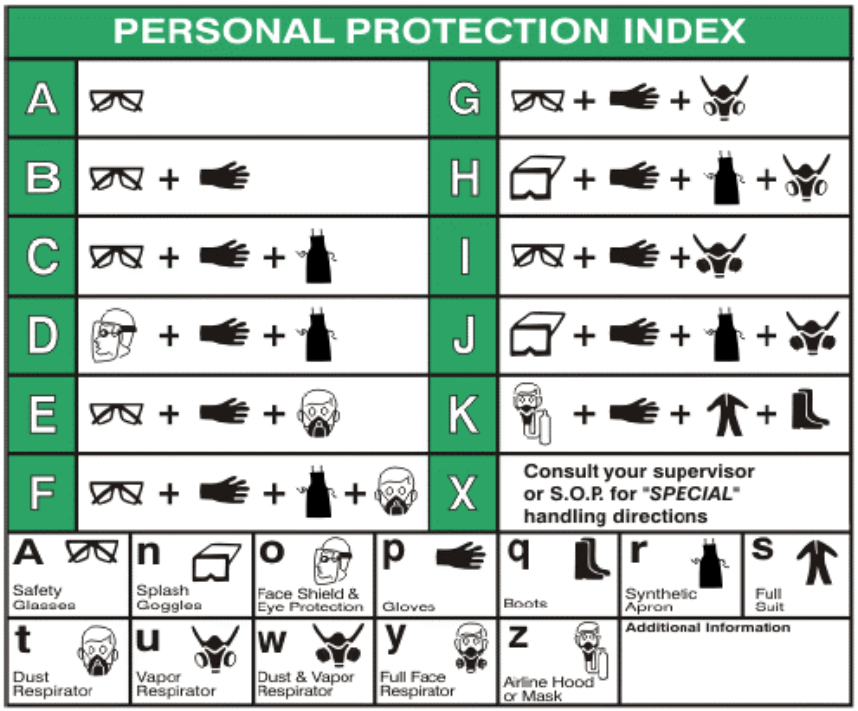
HMIS Labels

Hazardous Material Identification System (HMIS) labels were developed by the National Paint & Coatings Association (NPCA) to help employers comply with OSHA's Hazard Communication Standard. **HMIS labels are not mandatory.** The example below is provided as an example of an industrial chemical label and how it is interpreted.

HMIS Label Example

HMIS®
Chemical Name
HEALTH * 2
FLAMMABILITY 1
PHYSICAL HAZARD 0
PERSONAL PROTECTION A
Emergency Overview: Summarize the nature and appearance of the chemical and the important health hazards.



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HMIS Labels

HMIS HEALTH HAZARD RATING CHART	
* CHRONIC HAZARD	Chronic (long-term) health effects may result repeated overexposure.
0=MINIMAL HAZARD	No significant risk to health.
1=SLIGHT HAZARD	Irritation or minor reversible injury possible.
2=MODERATE HAZARD	Temporary or minor injury may occur.
3=SERIOUS HAZARD	Major injury likely unless prompt action is taken and medical treatment is given.
4=SEVERE HAZARD	Life-threatening, major or permanent damage may result from single or repeated overexposures.

HMIS FLAMMABILITY HAZARD RATING CHART	
0=MINIMAL HAZARD	Materials that will not burn.
1=SLIGHT HAZARD	Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200° F. (Class IIIB)
2=MODERATE HAZARD	Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100° F but below 200° F. (Classes II & IIIA)
3=SERIOUS HAZARD	Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquidswith flash points below 73° F and boiling points above 100° F.as well as liquids with flash points between 73° F and 100° F. (Classes IB & IC)
4=SEVERE HAZARD	Flammable gases, or very volatile flammable liquids with flash points below 73° F, and boiling points below 100° F. Materials may ignite spontaneously with air. (Class IA)

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HMIS Labels

HMIS PHYSICAL HAZARD RATING CHART	
0=MINIMAL HAZARD	Materials that are normally stable, under fire conditions and will not react to water, polymerize, decompose, condense or self react.
1=SLIGHT HAZARD	Materials that are normally stable but can become unstable at high temperature and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
2=MODERATE HAZARD	Materials that are unstable and may undergo violent chemical change at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.
3=SERIOUS HAZARD	Materials that may form explosive mixtures with water are capable of detonation or explosive reaction in the presence of a strong initiating source or undergo chemical change at normal temperature and pressure with moderate risk of explosion.
4=SEVERE HAZARD	Materials that are readily, capable of water reaction, detonation or explosive decomposition at normal temperatures and pressures.

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Hazardous Chemical Inventory

- **Located in Tab F of the HAZCOM Binder**
- **Listing of all hazardous chemicals in the workplace**
- **Updated every time a chemical is added or deleted from the workplace or at least reviewed annually**
- **BE will review this inventory during routine Occupational Health Assessments**
- **Chemical inventory must be cross-referenced with MSDSs**

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Hazardous Chemical Inventory Cont'd…

- An inventory obtained from the EESOH-MIS is acceptable as long as it is:
  - Specific to the individual workplace
  - Identifies all hazardous chemicals used within the workplace
  - Cross-referenced with applicable MSDSs
- The inventory must list:
  - Identity of each hazardous chemical used in the workplace
    - Preferably by the name listed on the MSDS
  - Stock or part number
- The inventory may not be hand written
  - The MSDS cross reference label may be hand written
- Inventory does not need to list quantities on hand

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Material Safety Data Sheets (MSDS)

- MSDSs are managed by the workplace HAZCOM Manager:
  - **HAZCOM MANAGER**
- Our workplace MSDSs are located:
  - **LOCATION OF MSDSs**
- MSDSs will be made readily available to workers at all times
  - Hardcopy MSDSs must be maintained
  - Digital MSDSs can be used as a backup to the hardcopies
- The following offices can help you obtain MSDSs:
  - The chemical manufacturer (http://www.ehso.com/msds.php)
  - HAZMART (Bldg 1629, 784-9287)
  - EESOH-MIS Program

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Material Safety Data Sheets (MSDS)

- **Shop must maintain a MSDS for each hazardous chemical used in the workplace**
- **All MSDSs must be manufacturer specific**
- **All MSDSs must be in English regardless of the chemical's country of origin or the nationality of workplace worker's**
- **The MSDS binder and MSDSs must be updated when a chemical is added, deleted, or at least reviewed annually**
- **MSDSs must be cross-referenced with the chemical inventory**

Material Safety Data Sheets (MSDS)

Example of MSDS for WD-40:

Manufacturer

Chemical Name

1 - Chemical Product and Company Identification

Manufacturer: WD-40 Company	Chemical Name: Organic Mixture
Address: 1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California, USA 92138 –0607	Trade Name: WD-40 Aerosol Product Use: Cleaner, Lubricant, Penetrant
Telephone: 1-800-448-9340	MSDS Date Of Preparation: 5/16/07
Emergency only: 1-888-324-7596 (PROZAR) Information: 1-888-324-7596	

Emergency Phone #

MSDS Date

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Material Safety Data Sheets (MSDS)

2. Hazards Identification

Emergency Overview:

DANGER! Harmful or fatal if swallowed. Flammable aerosol. Contents under pressure. Avoid eye contact. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

Symptoms of Overexposure:

Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.

Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.

Eye Contact: Contact may be mildly irritating to eyes. May cause redness and tearing.

Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. The liquid contents are an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis.

Chronic Effects: None expected.

Medical Conditions Aggravated by Exposure: Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

Suspected Cancer Agent:

Yes No X

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Material Safety Data Sheets (MSDS)

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
Aliphatic Hydrocarbon	64742-47-8 64742-48-9 64742-88-7	45-50
Petroleum Base Oil	64742-65-0	15-25
LVP Aliphatic Hydrocarbon	64742-47-8	12-18
Carbon Dioxide	124-38-9	2-3
Non-Hazardous Ingredients	Mixture	<10

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.

Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

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Material Safety Data Sheets (MSDS)

6 – Accidental Release Measures

Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use with adequate ventilation. Keep away from heat, sparks, hot surfaces and open flames. Wash thoroughly with soap and water after handling. Do not puncture or incinerate containers. Keep can away from electrical current or battery terminals. Electrical arcing can cause burn-through (puncture) which may result in flash fire, causing serious injury. Keep out of the reach of children.

Storage: Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol.

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Material Safety Data Sheets (MSDS)

The Following Controls are Recommended for Normal Consumer Use of this Product
Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Safety glasses or goggles recommended.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

16 – Other Information:

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Reactivity – 0 (minimal hazard)

- MSDSs make very conservative PPE recommendations due to legalities
- Use BE PPE recommendation as outlined in their survey letter
- Use the MSDS recommendation if no other guidance exists
  - Contact BE to determine appropriate PPE

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Cross-Referencing

- **Cross-referencing must be accomplished by linking the chemical listed on the chemical inventory and its respective MSDS with a simple coding scheme, such as:**
  - **Example 1**: Assign a number/code to each chemical listed on the inventory and label the MSDS with the same number. If MSDSs are maintained in document protectors, the document protector itself may be numbered/coded to allow for easy inventory/MSDS updates.
  - **Example 2**: Use the NSN already found on the MSDS and Inventory as the cross-reference. Ensure the inventory listing is in NSN order and then order the MSDSs in the binder to match. Highlight the MSDS's NSN to ensure ready identification.

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Non-Routine Tasks

- **Listing of tasks performed within a workplace's normal activities but performed infrequently**
  - **Example 1:** Cleaning a solvent tank (tank is cleaned infrequently, even though it is used daily)
  - **Example 2:** Seasonal activities (activities only occur during one season and are not done during rest of the year)
- **Temporary duties outside of the individual's normal AFSC or job series**
- **Governing documents (T.O., O.I., manufacturer instructions) must thoroughly describe the non-routine task and it's associated hazards and controls**
  - Workplace supervisor must prepare document if other governing documents do not exist
- **Supervisors will ensure workers review these procedures before performing the task**

Workplace Specific HAZCOM Training

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Purpose

- **The purpose of Workplace Specific HAZCOM Training is to inform personnel of their workplace specific:**
  - **HAZCOM Manager**
  - **HAZCOM Binder and its location**
  - **MSDS Binder and its location**
  - **Routine and Non-routine process specific chemical hazards**
  - **Routine and Non-routine process specific protective controls, such as:**
    - **Engineering controls (process elimination; substitution with less hazardous materials; process automation, isolation and enclosure; ventilation systems)**
    - **Administrative controls (job rotation, limiting exposure time, housekeeping, education and training)**
    - **Personal Protective Equipment (chemical protective gloves, face shields, aprons, respirators)**
  - **Chemical Emergency Procedures**

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Workplace Specific HAZCOM

- **YOUR SHOP**
- **HAZCOM Program Manager: Rank-First-Last**
- **Phone Number: 784-XXXX**
- **Located in: Bldg #**
- **HAZCOM Binder Location: Binder #/Location**
- **MSDS Binder Location: Binder #/Location**

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HAZCOM Binder Contents

Copy of this Workplace Specific HAZCOM Training Lesson Plan	Copy of the 51 FWI 48-106 BASE HAZARD COMMUNICATION PROGRAM	BE Survey(s) from the previous 10 years (if applicable)	Documentation of initial and supplemental work place specific HAZCOM training for all employees on AF Form 55 (may be cross-referenced)
TAB A	**TAB B**	**TAB C**	**TAB D**
Workplace Hazardous Chemical Inventory	List of Workplace Non-routine Tasks Involving Hazardous Chemicals	Material Safety Data Sheets (MSDSs) (may be cross-referenced)	Certified PPE Listing
TAB E	**TAB F**	**TAB G**	**TAB H**

Spill Response Plan/Emergency Exit Plan	Appointment Letter: primary and alternate HAZCOM monitors	Miscellaneous information
TAB I	**TAB J**	**TAB K**

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Workplace Process List

- **SHOP NAME performs the following processes: (List all processes for your shop)**
  - **Process 1:**
  - **Process 2:**
  - **Process 3:**

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Process 1: Process Name

- **Process 1 hazardous chemical overview:**

Hazardous Chemicals used in Process 1	Chemical Hazard	Required / Recommended Controls
Methane Gas	Flammable, Inhalation	PPE: N/A Admin: N/A Engineering: N/A
Isopropyl Alcohol	Flammable, Irritant	PPE: Nitrile Gloves Admin: N/A Engineering: N/A
Isobutylene	Inhalation	PPE: N/A Admin: N/A Engineering: N/A

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Process 2 : Process Name

- **Process 2 hazardous chemical overview:**

Hazardous Chemicals used in Process 2	Chemical Hazard	Required / Recommended Controls
Methanol	Inhalation, Ingestion, Flammable, Contact	PPE: Butyl Gloves Admin: Proper Chemical Handling Procedures Engineering: N/A
Gasoline	Flammable, Contact, Irritant, Ingestion, Inhalation	PPE: Goggles, Nitrile Gloves Admin: N/A Engineering: N/A (used outdoors only)
Hydrazine	Irritant, Ingestion, Contact, Inhalation	PPE: Level A Suits, SCBA, hazmat boots, butyl gloves Admin: HAZMAT and HAZWOPER Training, Worker Rotation, Time limits Engineering: N/A
TIC / TIM / Chemical Warfare Agents	Contact, Inhalation, Ingestion, Irritant, corrosive, Flammable	PPE: Nitrile Gloves, Butyl gloves, Level A-C suits, SCBA, HAZMAT Boots, Full-face Respirator, PAPR Admin: FSTR-ST, HAZMAT, and HAZWAPER training, Worker rotation, time limits Engineering: N/A

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Process 3 : Process Name

- **Process 3 hazardous chemical overview:**

Hazardous Chemicals used in Process 3	Chemical Hazard	Required / Recommended Controls
SPADNS Reagent	Chemical Contact	PPE: Nitrile Gloves Admin: Proper Chemical Handling Procedures Engineering: N/A

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Non-Routine Task List

- **YOUR SHOP NAME does not perform any non-routine task at this time**
- **OR**
- **YOUR SHOP NAME performs the following non-routine tasks:**
  - **TASK 1: description of task including hazardous chemicals used and required PPE**
  - **TASK 2 …**
  - **TASK 3 …**

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Chemical Emergency Procedures

- **YOUR SHOP's chemical emergency procedures:**
  - **Location of emergency eyewash and showers:**
    - **A) Located in Bldg #### Room ###, next to the _____**
  - **Emergency Spill Procedures: _____**
  - **Emergency Escape Procedures: _____, or N/A**

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HAZCOM Resources

- YOUR HAZCOM PROGRAM MANAGER Bldg ####
  - 784-####
- Public Health – Occupational Health Element
  - Provides HAZCOM Supervisor Training
  - Building 777
  - DSN 784-2515
- Bioenvironmental Engineering
  - Provides HAZCOM program Guidance
  - Building 768
  - DSN 784-2623
- Wing Ground Safety
  - Coordinates Eye Wash Station Requests
  - Building 745, 2nd Floor
  - DSN 784-1842

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Possible HAZCOM Inspector Questions

- **All workplace personnel have to demonstrate:**
  - If given a chemical container, can I quickly find the MSDS and emergency procedures in the event of a spill?
    - *Involves reading the chemical label, finding the MSDS, and understanding the MSDS*
  - What PPE am I required to wear when performing a workplace process?
    - *Found in BE survey letter, MSDS, or HAZCOM Binder*
  - Who is my workplace HAZCOM Manager?
  - What do I do before I start a process involving hazardous chemicals?
    - *Review process procedures, checklists, T.O.s, O.I.s, etc…*
    - *Identify engineering, administrative, and PPE controls*
    - *Identify emergency procedures, eyewashes/showers as applicable*
  - What are the signs and symptoms of overexposure?
    - *Involves reading the chemical label, finding the MSDS, and understanding the MSDS*

Questions?